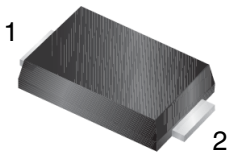
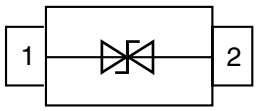
Power TVS in SOD123-FL

Features

- Glass passivated chip
- 200W peak pulse power(10/1000us)
- High accuracy, 5% tolerance
- Uni and Bidirectional unit
- Low clamping voltage
- Low Leakage current
- Very fast response time

Bidirectional

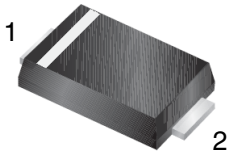


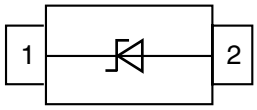


Mechanical Data

- **Case:**SOD123-FL (plastic package). RoHS compliant
- **Molding Compound Flammability Rating:** UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Unidirectional





Applications

- Computers
- Telecom system
- Industrial equipments
- Consumer electronic applications
- Other VCC bus and I/O interfaces

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak pulse power dissipation with a 10/1000us waveform (1)	P_{PP}	200	W
Maximum peak reverse pulse current a 10/1000us waveform (1)	I_{PP}	See Next Table	A
Peak forward surge current 8.3ms single half sine-wave (2)	I_{FSM}	20	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	℃

Notes:

1.Non-repetitive current pulse,per Fig.5 and detated above TA=25°C per Fig.1

2.Measured on 8.3ms single half sine-wave,or equivalent square wave,duty cycle=4 pulses per minute maximum

Electrical Characteristics

(T_A = 25 °C unless otherwise specified)

Part Number	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@V_{RWM} I_R max(uA)	Breakdown Voltage@I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@I_{PP} V_C (V)
				V_{BR} min(V)	V_{BR} max(V)	I_T(mA)		
SODJ5.0A	Uni-Dir	5.0	800	6.4	7.07	10	21.74	9.2
SODJ5.0CA	Bi-Dir	5.0	1600	6.4	7.07	10	21.74	9.2
SODJ6.0A	Uni-Dir	6.0	800	6.67	7.37	10	19.42	10.3
SODJ6.0CA	Bi-Dir	6.0	1600	6.67	7.37	10	19.42	10.3
SODJ6.5A	Uni-Dir	6.5	500	7.22	7.98	10	17.86	11.2
SODJ6.5CA	Bi-Dir	6.5	1000	7.22	7.98	10	17.86	11.2
SODJ7.0A	Uni-Dir	7.0	200	7.78	8.60	10	16.67	12.0
SODJ7.0CA	Bi-Dir	7.0	400	7.78	8.60	1	16.67	12.0
SODJ7.5A	Uni-Dir	7.5	100	8.33	9.21	1	15.51	12.9
SODJ7.5CA	Bi-Dir	7.5	200	8.33	9.21	1	15.51	12.9
SODJ8.0A	Uni-Dir	8.0	50	8.89	9.83	1	14.71	13.6
SODJ8.0CA	Bi-Dir	8.0	100	8.89	9.83	1	14.71	13.6
SODJ8.5A	Uni-Dir	8.5	10	9.44	10.40	1	13.89	14.4
SODJ8.5CA	Bi-Dir	8.5	20	9.44	10.40	1	13.89	14.4
SODJ9.0A	Uni-Dir	9.0	5	10.00	11.10	1	12.99	15.4
SODJ9.0CA	Bi-Dir	9.0	10	10.00	11.10	1	12.99	15.4
SODJ10A	Uni-Dir	10.0	5	11.10	12.30	1	11.77	17.0
SODJ10CA	Bi-Dir	10.0	10	11.10	12.30	1	11.77	17.0
SODJ11A	Uni-Dir	11.0	1	12.20	13.50	1	10.99	18.2
SODJ11CA	Bi-Dir	11.0	1	12.20	13.50	1	10.99	18.2
SODJ12A	Uni-Dir	12.0	1	13.30	14.70	1	10.05	19.9
SODJ12CA	Bi-Dir	12.0	1	13.30	14.70	1	10.05	19.9
SODJ13A	Uni-Dir	13.0	1	14.40	15.90	1	9.30	21.5
SODJ13CA	Bi-Dir	13.0	1	14.40	15.90	1	9.30	21.5
SODJ14A	Uni-Dir	14.0	1	15.60	17.20	1	8.62	23.2
SODJ14CA	Bi-Dir	14.0	1	15.60	17.20	1	8.62	23.2
SODJ15A	Uni-Dir	15.0	1	16.70	18.50	1	8.20	24.4
SODJ15CA	Bi-Dir	15.0	1	16.70	18.50	1	8.20	24.4
SODJ16A	Uni-Dir	16.0	1	17.80	19.70	1	7.69	26.0
SODJ16CA	Bi-Dir	16.0	1	17.80	19.70	1	7.69	26.0
SODJ17A	Uni-Dir	17.0	1	18.90	20.90	1	7.25	27.6
SODJ17CA	Bi-Dir	17.0	1	18.90	20.90	1	7.25	27.6
SODJ18A	Uni-Dir	18.0	1	20.00	22.10	1	6.85	29.2
SODJ18CA	Bi-Dir	18.0	1	20.00	22.10	1	6.85	29.2
SODJ19A	Uni-Dir	19.0	1	21.10	23.30	1	6.50	30.8
SODJ19CA	Bi-Dir	19.0	1	21.10	23.30	1	6.50	30.8
SODJ20A	Uni-Dir	20.0	1	22.20	24.50	1	6.18	32.4
SODJ20CA	Bi-Dir	20.0	1	22.20	24.50	1	6.18	32.4

Part Number	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@V_{RWM} I_R max(uA)	Breakdown Voltage@I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@I_{PP} V_C (V)
				V_{BR} min(V)	V_{BR} max(V)	I_T(mA)		
SODJ22A	Uni-Dir	22.0	1	24.40	26.90	1	5.64	35.5
SODJ22CA	Bi-Dir	22.0	1	24.40	26.90	1	5.64	35.5
SODJ24A	Uni-Dir	24.0	1	26.70	29.50	1	5.14	38.9
SODJ24CA	Bi-Dir	24.0	1	26.70	29.50	1	5.14	38.9
SODJ26A	Uni-Dir	26.0	1	28.90	31.90	1	4.75	42.1
SODJ26CA	Bi-Dir	26.0	1	28.90	31.90	1	4.75	42.1
SODJ28A	Uni-Dir	28.0	1	31.10	34.40	1	4.41	45.4
SODJ28CA	Bi-Dir	28.0	1	31.10	34.40	1	4.41	45.4
SODJ30A	Uni-Dir	30.0	1	33.30	36.80	1	4.13	48.4
SODJ30CA	Bi-Dir	30.0	1	33.30	36.80	1	4.13	48.4
SODJ33A	Uni-Dir	33.0	1	36.70	40.60	1	3.75	53.3
SODJ33CA	Bi-Dir	33.0	1	36.70	40.60	1	3.75	53.3
SODJ36A	Uni-Dir	36.0	1	40.00	44.20	1	3.44	58.1
SODJ36CA	Bi-Dir	36.0	1	40.00	44.20	1	3.44	58.1
SODJ40A	Uni-Dir	40.0	1	44.40	49.10	1	3.10	64.5
SODJ40CA	Bi-Dir	40.0	1	44.40	49.10	1	3.10	64.5
SODJ43A	Uni-Dir	43.0	1	47.80	52.80	1	2.88	69.4
SODJ43CA	Bi-Dir	43.0	1	47.80	52.80	1	2.88	69.4
SODJ45A	Uni-Dir	45.0	1	50.00	55.30	1	2.75	72.7
SODJ45CA	Bi-Dir	45.0	1	50.00	55.30	1	2.75	72.7
SODJ48A	Uni-Dir	48.0	1	53.30	58.90	1	2.59	77.4
SODJ48CA	Bi-Dir	48.0	1	53.30	58.90	1	2.59	77.4
SODJ51A	Uni-Dir	51.0	1	56.70	62.70	1	2.43	82.4
SODJ51CA	Bi-Dir	51.0	1	56.70	62.70	1	2.43	82.4
SODJ54A	Uni-Dir	54.0	1	60.00	66.30	1	2.30	87.1
SODJ54CA	Bi-Dir	54.0	1	60.00	66.30	1	2.30	87.1
SODJ58A	Uni-Dir	58.0	1	64.40	71.20	1	2.14	93.6
SODJ58CA	Bi-Dir	58.0	1	64.40	71.20	1	2.14	93.6
SODJ60A	Uni-Dir	60.0	1	66.70	73.70	1	2.07	96.8
SODJ60CA	Bi-Dir	60.0	1	66.70	73.70	1	2.07	96.8
SODJ64A	Uni-Dir	64.0	1	71.10	78.60	1	1.94	103.0
SODJ64CA	Bi-Dir	64.0	1	71.10	78.60	1	1.94	103.0
SODJ70A	Uni-Dir	70.0	1	77.80	86.00	1	1.77	113.0
SODJ70CA	Bi-Dir	70.0	1	77.80	86.00	1	1.77	113.0
SODJ75A	Uni-Dir	75.0	1	83.30	92.10	1	1.66	121.0
SODJ75CA	Bi-Dir	75.0	1	83.30	92.10	1	1.66	121.0
SODJ78A	Uni-Dir	78.0	1	86.70	95.80	1	1.59	126.0
SODJ78CA	Bi-Dir	78.0	1	86.70	95.80	1	1.59	126.0

Part Number	Direction	Maximum Working Voltage V_{RWM} (V)	Maximum Reverse Current@V_{RWM} I_R max(uA)	Breakdown Voltage@I_T			Peak Surge Current I_{PP} (A)	Maximum Clamping Voltage@I_{PP} V_C (V)
				V_{BR} min(V)	V_{BR} max(V)	I_T(mA)		
SODJ80A	Uni-Dir	80.0	1	88.80	97.60	1	1.55	129.6
SODJ80CA	Bi-Dir	80.0	1	88.80	97.60	1	1.55	129.6
SODJ85A	Uni-Dir	85.0	1	94.40	104.00	1	1.46	137.0
SODJ85CA	Bi-Dir	85.0	1	94.40	104.00	1	1.46	137.0
SODJ90A	Uni-Dir	90.0	1	100.00	111.00	1	1.37	146.0
SODJ90CA	Bi-Dir	90.0	1	100.00	111.00	1	1.37	146.0
SODJ100A	Uni-Dir	100.0	1	111.00	123.00	1	1.24	162.0
SODJ100CA	Bi-Dir	100.0	1	111.00	123.00	1	1.24	162.0
SODJ110A	Uni-Dir	110.0	1	122.00	135.00	1	1.13	177.0
SODJ110CA	Bi-Dir	110.0	1	122.00	135.00	1	1.13	177.0
SODJ120A	Uni-Dir	120.0	1	133.00	147.00	1	1.04	193.0
SODJ120CA	Bi-Dir	120.0	1	133.00	147.00	1	1.04	193.0
SODJ130A	Uni-Dir	130.0	1	144.00	159.00	1	0.96	209.0
SODJ130CA	Bi-Dir	130.0	1	144.00	159.00	1	0.96	209.0
SODJ140A	Uni-Dir	140.0	1	155.00	171.00	1	0.88	226.8
SODJ140CA	Bi-Dir	140.0	1	155.00	171.00	1	0.88	226.8
SODJ150A	Uni-Dir	150.0	1	167.00	185.00	1	0.83	243.0
SODJ150CA	Bi-Dir	150.0	1	167.00	185.00	1	0.83	243.0
SODJ160A	Uni-Dir	160.0	1	178.00	197.00	1	0.77	259.0
SODJ160CA	Bi-Dir	160.0	1	178.00	197.00	1	0.77	259.0
SODJ170A	Uni-Dir	170.0	1	189.00	209.00	1	0.73	275.0
SODJ170CA	Bi-Dir	170.0	1	189.00	209.00	1	0.73	275.0

Typical Characteristics (T_{amb} = 25 °C unless otherwise specified)

Fig. 1-Pulse Derating Curve

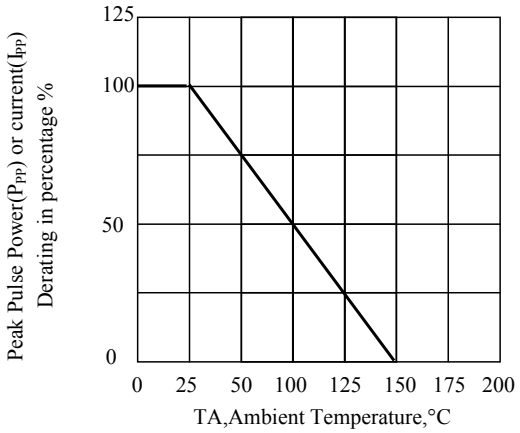


Fig. 2-Maximum Non-Repetitive Peak Forward Surge Current Unidirectional

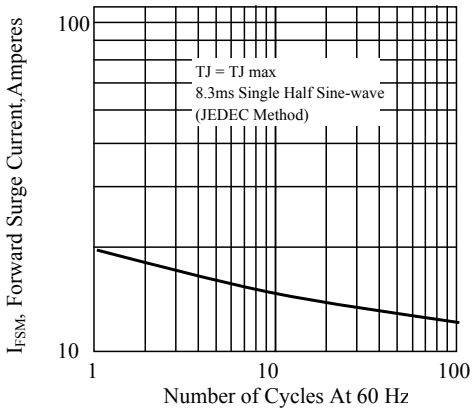


Fig 3. – typical transient thermal impedance

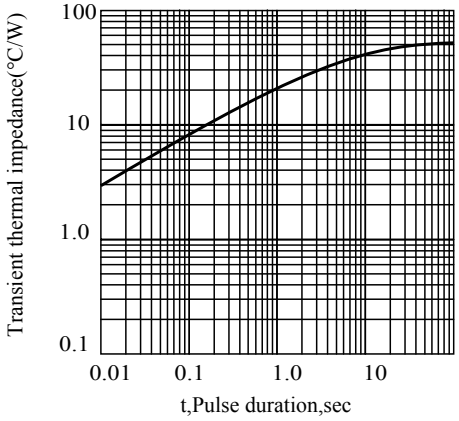


Fig. 4-Peak Pulse Power Rating Curve

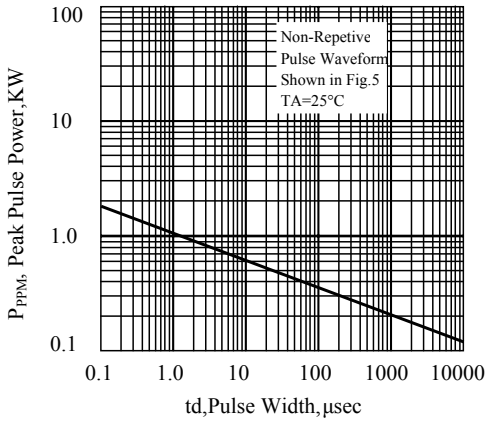


Fig. 5-Pulse Waveform

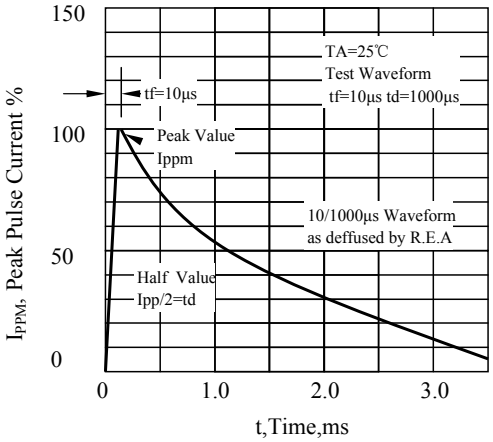
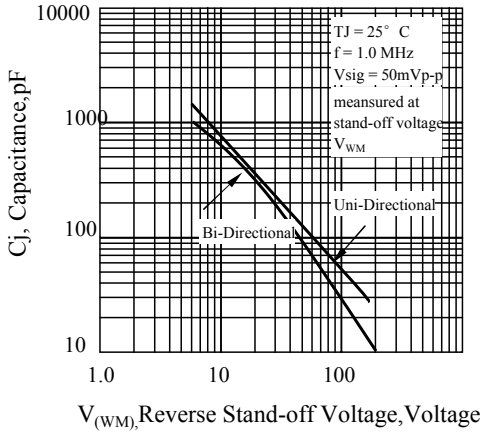
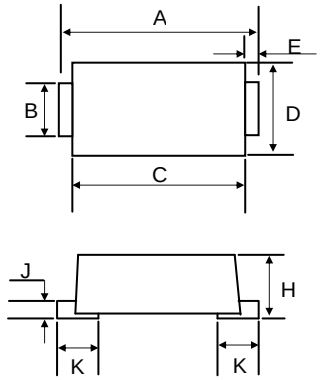


Fig. 6-Typical Junction Capacitance Unidirectional



Package Dimensions



Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	3.50	3.70	3.90
B	0.75	0.85	0.95
C	2.60	2.80	3.00
D	1.60	1.80	2.00
E		0.45Typ	
H	0.9	1.05	1.2
J	0.12	0.17	0.22
K		0.8Typ	

Ordering inormation

Order code	Package	Packaging option	Base quantity	Packaging specification
SODJ Series	SOD123-FL	Tape and reel	3000pcs / reel	EIA STD RS-481

Reision history

Date	Revision	Changes
23-May-2012	1.0	Initial release

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